MILITARY SPECIFICATION

MICROCIRCUITS, LINEAR,
VOLTAGE FOLLOWER OPERATIONAL AMPLIFIERS
MONOLITHIC SILICON

This amendment forms a part of Military Specification MIL-M-38510/106A, dated 21 December 1977, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.2.3, add the following new case outline:

| Outline letter | MIL-M-38510, appendix C, case outline |
|---|---|
| P | D-4(8-lead, 1/4" x 3/8" dual-in-line)" |

PAGE 4

Table I, Transient response, Overshoot, maximum limits column: Delete "30" and substitute "40" at 25°C and "50" at -55 and 125°C.

* TABLE I, Symbol column: Delete "$\Delta V(\pm)$" and substitute "$AV(\pm)$".

PAGE 5

Table I, Output short circuit current (negative output), minimum limits column: Delete "1.5" and "1.3" and substitute "1.0" for both values.

Table II, Group A test requirements (method 5005), class B devices column: Delete "8".

Table II, MIL-STD-883 test requirement column: Delete "Group C end point" and substitute "Group C end point and group B, class S,".

PAGE 6

Figure 2, Terminal connections, device types 01 and 02: Add case P as printed on page 3 of this amendment.

PAGE 7

* Figure 3: Under "Device type 01", add "CIRCUIT A".

PAGE 8

* Figure 3, device type 02: Delete and substitute new circuit B for device types 01 and 02 as printed on page 4 of this amendment.

PAGE 17

* Table III, Limits heading: Following "Limits", add "2/". Make this same change on page 18.

* Table III, at end of table, add: "See footnotes at end of table". Make this same change on page 18.

Table III: Test 11, minimum limits column: Delete "1.5" and substitute "1.0".

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Table III, test 23, minimum limits column: Delete "1.5" and substitute "1.0".

PAGE 19

* Table III, Limits heading: Delete "3/" and substitute "2/".

Table III, test 35, minimum limits column: Delete "1.3" and substitute "1.0".

* Table III, test 39, condition column: Delete "±10Ω" and substitute "±10V".

* Table III, test 43, condition column: Delete "10V" and substitute "±10V".

PAGE 20

* Table III, test nos. 48 through 65 (Subgroups 7 and 8): Delete and substitute test nos. 44 through 65 (Subgroups 6, 7, and 8) as printed on page 5 of this amendment. Footnotes shall remain the same.

NOTE: The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

Custodians:
Army - ER
Navy - EC
Air Force - 17

Review activities:
Army - MI
Navy - SH
Air Force - 11, 85, 99
DLA - ES
NASA - NA

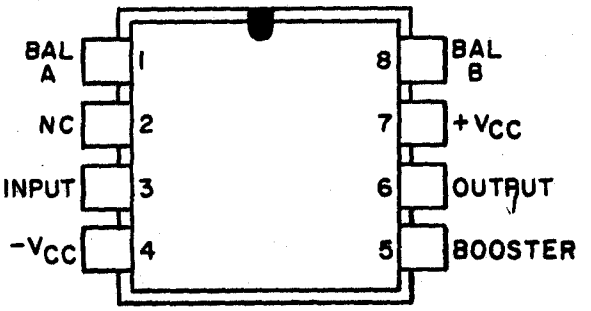
User activities:
Army - SM, AR, WC
Navy - CG, MC, AS, OS
Air Force - 19

Preparing activity:
Air Force - 17

Agent:
DLA - ES

(Project 5962-0282)

Device types 01 and 02

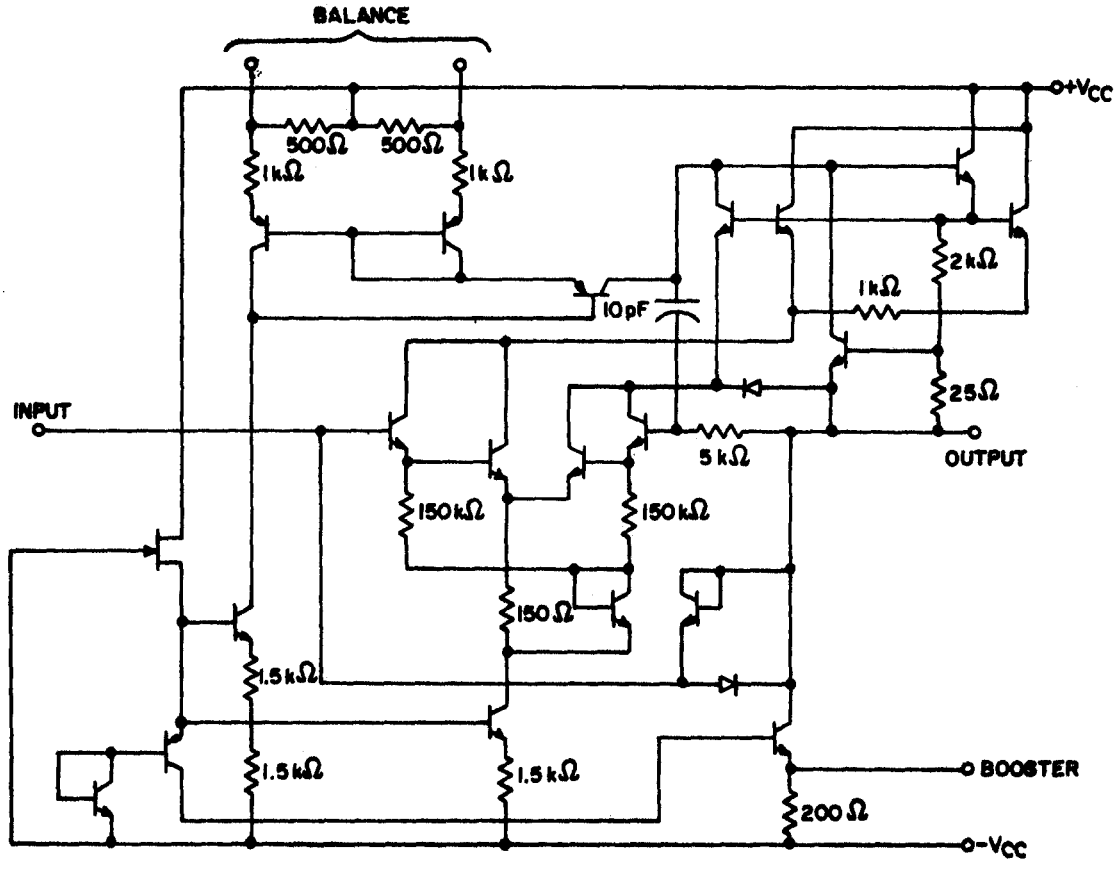



DUAL-IN-LINE PACKAGE

CASE P

Device types 01 and 02

Circuit B




NOTE:
All component values are nominal.

Fairchild Semiconductor

FIGURE 3. Schematic circuits - Continued.

TABLE III. Group A inspection - Continued.

| Subgroup | Symbol | MIL-STD-883 method | Test | Condition 1/ | Device type | Limits 2/ Min | Limits 2/ Max | Unit |
|---|---|---|---|---|---|---|---|---|
| 6 $T_A$= -55°C | $A_{V+}$ | 4004 | 44 | Figure 8; $\pm V_{CC}$ = ±18 V | 01,02,03 | 0.999 | 1.000 | V/V |
| | $A_{V-}$ | 4004 | 45 | Figure 8; $\pm V_{CC}$ = ±18 V | 01,02,03 | 0.999 | 1.000 | V/V |
| | $V_{OPP1}$ | 4004 | 46 | $R_L$ = 10 kΩ; booster open; $\pm V_O$ = ±10 V | 01,02,03 | 20 | | V |
| | $V_{OPP2}$ | 4004 | 47 | $R_L$ = 3.3 kΩ; $\pm V_O$ = ±10 V; 100Ω from booster to $-V_{CC}$ | 01,02,03 | 20 | | V |
| 7 $T_A$= +25°C | TR rise time | | 48 | Figure 9 | 01,02,03 | | 44 | ns |
| | TR overshoot | | 49 | Figure 9 | 01,02,03 | | 40 | % |
| | SR(+) | 4002 | 50 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | SR(-) | 4002 | 51 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | BW | | 52 | Figure 9 | 01,02,03 | 8 | | MHz |
| | CS | | 53 | Figure 10 | 03 | 90 | | dB |
| 8 $T_A$= +125°C | TR rise time | | 54 | Figure 9 | 01,02,03 | | 44 | ns |
| | TR overshoot | | 55 | Figure 9 | 01,02,03 | | 50 | % |
| | SR(+) | 4002 | 56 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | SR(-) | 4002 | 57 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | BW | | 58 | Figure 9 | 01,02,03 | 8 | | MHz |
| | CS | | 59 | Figure 10 | 03 | 90 | | dB |
| 8 $T_A$= -55°C | TR rise time | | 60 | Figure 9 | 01,02,03 | | 44 | ns |
| | TR overshoot | | 61 | Figure 9 | 01,02,03 | | 50 | % |
| | SR(+) | 4002 | 62 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | SR(-) | 4002 | 63 | Figure 9 | 01 | 7 | | V/µs |
| | | | | | 02,03 | 20 | | V/µs |
| | BW | | 64 | Figure 9 | 01,02,03 | 8 | | MHz |
| | CS | | 65 | Figure 10 | 03 | 90 | | dB |